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- Published:**  
— with international search report  
— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

(54) Title: **CHEMOKINES MUTANTS HAVING IMPROVED ORAL BIOAVAILABILITY**

(57) Abstract: The oral efficacy of C-C- chemokines containing a dibasic site in the 40's conserved cationic sequence, such as RANTES and MIP-1beta, is improved by substituting at least one of the residues in the dibasic site in a non-conservative manner.

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## INTERNATIONAL SEARCH REPORT

International Application No.

PCT/EP 03/50084

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 A61K38/19 A61P29/00 A61P31/00 A61P37/00 //C07K14/52

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A61K C07K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, BIOSIS, MEDLINE, CHEM ABS Data, SEQUENCE SEARCH

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 02 28419 A (KOSCO VILBOIS MARIE ;WELLS TIMOTHY N C (FR); PROUDFOOT AMANDA (FR)) 11 April 2002 (2002-04-11) cited in the application the whole document ---	1-5
A	US 6 214 540 B1 (GALLO ROBERT C ET AL) 10 April 2001 (2001-04-10) column 6, line 17 - line 29 column 33, line 65 - line 67 column 35, line 17 - line 18 claims ---	1-5
A	US 5 965 697 A (CZAPLEWSKI LLOYD GEORGE ET AL) 12 October 1999 (1999-10-12) column 2, line 57 - line 67 column 14, line 32 - line 41; claims --- -/--	1-5

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

## \* Special categories of cited documents:

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*G\* document member of the same patent family

Date of the actual completion of the international search

6 August 2003

Date of mailing of the international search report

26/08/2003

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## INTERNATIONAL SEARCH REPORT

International Application No  
PCT/EP 03/50084

## .C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 6 316 420 B1 (WILDBAUM GIZI ET AL) 13 November 2001 (2001-11-13) column 4, line 36 - line 42 column 12, line 4 - line 9 -----	1-5

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/EP 03/50084

## Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☒ Claims Nos.:                      claims 1-5 (all partially)  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:  
see FURTHER INFORMATION sheet PCT/ISA/210
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.  
☐ No protest accompanied the payment of additional search fees.

## FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.2

Claims Nos.: claims 1-5 (all partially)

1. Claims 1-3 relate to compounds defined by reference to a desirable characteristic or property, namely "muteins". The claims 1-3 cover all compounds having this characteristic or property, whereas the application provides support within the meaning of Article 6 PCT and disclosure within the meaning of Article 5 PCT for only a very limited number of such compounds. In the present case, the claims so lack support, and the application so lacks disclosure, that a meaningful search over the whole of the claimed scope is impossible. Independent of the above reasoning, the claims also lack clarity because the term "muteins" used in claims 1-3 is unclear and leaves the reader in doubt as to the meaning of the technical feature to which it refers, thereby rendering the definition of the subject-matter of said claims unclear (Article 6 PCT). Again, this lack of clarity in the present case is such as to render a meaningful search over the whole of the claimed scope impossible.

1.2 Claims 1-5 relate to the use of a pharmaceutical preparation for prophylaxis or treatment of "autoimmune and inflammatory diseases", "bacterial infections", and "viral infections" which encompass a multitude of different diseases. The claims thus cover a rather large number of diseases, whereas the application provides support within the meaning of Article 84 EPC and disclosure within the meaning of Article 83 EPC for only a very limited number of such diseases. Consequently, the claims lack support and the application lacks disclosure. Independent of the above reasoning, the claims 1-4 also lack clarity because it is not fully possible to determine the diseases for which protection might legitimately be sought (Article 84 EPC).

Consequently, the search has been carried out for those parts of the claims which appear to be clear, supported and disclosed, namely those parts relating to SEQ ID NOs 1-9 in the therapy of diseases enlisted in page 8, line 14- line 19; and with due regard to the general concept of the invention.

The applicant's attention is drawn to the fact that claims, or parts of claims, relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP 03/50084

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 0228419	A	11-04-2002	AU 1591902 A	15-04-2002
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			WO 0006203 A1	10-02-2000
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